



PATENT

17795 (Tyco 6)

Appl. No. 10/075,406

Amdt. dated February 14, 2002

Reply to Office action of April 18, 2003

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**Amendments to the Specification:**

Please replace paragraph [0034] with the following amended paragraph:

A' [0034] Encapsulation suitable for millimeter-wave frequencies is another aspect of the exemplary embodiments. A superstrate material layer 2 is used on top of the substrate material layer 3 on which the signal traces are printed. The IC 6 is placed into a pocket 33 opened in the substrate material 2. Usage of a superstrate 2 provides enough clearance for the wire-bonds 7. It also improves the isolation between the signal traces 8 (shown in FIG. 2a). The isolation between coupled regular microstrip lines ~~302~~ 8 is relatively low due to non-equal even- and odd-mode phase velocities. Addition of the superstrate 2 brings the even-mode and odd-mode phase velocities closer to each other hence increasing the isolation. The superstrate 2 does not improve the coupling between the microstrip lines 8; it only improves the isolation (the definitions of isolation and coupling for coupled microstrip lines are known to a person in the art). However, for some applications, like millimeter-wave cross-point switches, isolation is the important parameter because isolation directly affects crosstalk between adjacent channels. For this reason, usage of the superstrate 2 is advantageous.

Please replace paragraph [0049] with the following amended paragraph

A<sup>2</sup> [0049] After the substrate layer 3, two more layers 4, 5 are used to provide additional ruggedness. Note that the intermediate layer 4 beneath the substrate 3 also has a rectangular opening 35 to accept the MMIC 6. An exemplary material suitable for intermediate and bottom layers 4 and 5 is a glass reinforced hydrocarbon/ceramic laminate, such as "RO4003@" sold by the Rogers Corp. In the exemplary embodiment, this is the same material that is used to form the host PCB 21. One of ordinary skill can readily select an appropriate material for a particular application.

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**Amendments to the Drawings:**

The attached sheets of drawings includes changes to Figs. 1 and 4.

In FIG. 1, items 25 and 26 are added, as required by the Examiner.

In Figure 4, reference numerals 303 and 8 are added, consistent with usage of the same reference numerals on the same items in other drawings.

Attachment: Replacement Sheets

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